

strated that in Bangladesh. Several studies in Bangladesh have shown that even the poor people are capable and willing to pay for services, if these are perceived to be useful. A number of methods of mobilising finance for health care programmes have been successfully used in Bangladesh. These include lotteries, cultural shows, putting a levy on transport, cinema tickets, renewal of trade licences or fire-arms. Also, community medical funds, where each member contributes at a fixed rate on a regular basis and draws an interest free loan for medical expenses in the case of

need, such as hospitalisation, has been made available in Bangladesh. 'Zakat' (where Muslims contribute at a fixed rate from their wealth due to religious obligation) is also not an uncommon source of funds in Bangladesh, to run health programmes or support individuals in case of their medical need.

## Health Care and Medicine

Health issues need to get out of the narrow field of medical intervention alone. For social effectiveness, these need to be ad-

dressed by the broader society in all its interventions. Other development programmes need to integrate into health issues (preventive and basic curative) with appropriate back-up support from the medical programme. In Bangladesh, several micro-credit programmes (provision of low-cost loans) have successfully integrated the health component within their programmes.

Mobilising existing resources within the community - human, social, financial - and using these strategically will clearly lead to better health.

## Review Article

### Community Selection of Ivermectin Distributors

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#### Background

**O**nchocerciasis (river blindness) ranks among the leading causes of visual impairment and blindness in Africa. The infection is caused by the filarial nematode, *Onchocerca volvulus*, transmitted from man to man by the man-biting simuliid or black-flies which breed in fast-flowing water.

An estimated 123 million people are exposed and about 18 million in the world suffer a grave burden imposed by the disease.<sup>1</sup>

With the availability of ivermectin (MECTIZAN®), a safe and effective microfilaricide, suitable for large-scale treatment, active community participation in ivermectin delivery became crucial. The microfilaricide needs to be given at least once per year to affected populations, and continued for more than fifteen years.

The Onchocerciasis Control Programme (OCP) and the African Programme for Onchocerciasis Control (APOC) sought for a community-based mechanism which could be integrated into and sustained by national health systems.

#### The CDTI Approach

Following the findings of a multi-country study,<sup>2</sup> APOC adopted the Community-Directed Treatment with Ivermectin (CDTI) approach with sustainable features as its principal control strategy.

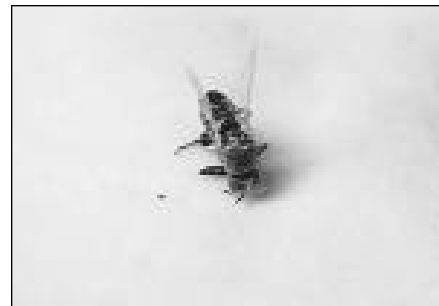
This approach is an evolution from community-based delivery strategies. It promotes active community participation as an integral part of ivermectin distribution, to improve access to the drug and a sense of community ownership of the project. The communities plan their own distribution systems. They make decisions on who should distribute the drug, the method (house-to-house, central location) and place (chief's compound, school, church) of distribution. Communities collect ivermectin from a collection point if not located far from them and decide when to distribute ivermectin.

#### Ivermectin Distributors

Ivermectin distributors are members of the community chosen by the community through a democratic process and trained to distribute ivermectin - which is considered safe enough for trained non-health personnel to handle. By 1998, 26,821 community-directed distributors (CDDs) had distributed ivermectin to their communities in 16 countries in the OCP and APOC areas.

During health education sessions, communities are informed about the detailed tasks of a distributor. However, they are left to decide on selection and provision of incentives (if agreed) to distributors.

Different communities have varying criteria for the selection of CDDs. Generally, cultural, structural and political influences and the tasks given to the distributor, provided by the programme facilitation team during health education of the community, affect community criteria for the selection of CDDs. For example, it has been shown that including females in the facilitation



*The black biting fly*

*Photo: Ian Murdoch*

team when approaching community leaders can influence community decisions to select females as distributors. Whilst community criteria may vary, available data suggest that some attributes are common to distributors. These attributes include honesty, good conduct, integrity, literacy and trustworthiness.<sup>2,3</sup>

#### Tasks of Ivermectin Distributors

The tasks include:

- conducting a census to determine the number of ivermectin tablets required for the next distribution.
- distribution of the correct dosage of drugs to eligible members based on height measurement with measuring sticks (photograph) and exclusion of those not eligible.
- record-keeping.
- keeping an inventory of ivermectin used, lost and unused.
- referring cases of severe adverse reactions to the nearest health facilities.

To be able to carry out these tasks CDDs are trained and re-trained every year, or every two years, by members of the National Onchocerciasis Task Force (NOTF). The NOTF is a partnership between Non-Governmental Development Organisations (NGDOs) and the Ministry of Health responsible for installation of sustainable ivermectin delivery systems.



**Distribution of ivermectin**

Photo: Pak Sang Lee

## Occupations of Distributors

In the Table, the occupations of ivermectin distributors in 22 communities are presented. The primary occupation of 52% of the distributors is farming. Individuals with other types of occupation are selected. As shown in the Table, a community in Country A selected a policeman and a soldier to distribute ivermectin to members resident in areas inaccessible to civilians due to social unrest.

Because CDDs are required to record treatment in a notebook or register, communities select literate members (persons who can write). The current challenge to field staff is the high turnover of literate and young CDDs (e.g., students) whose aim is to secure better jobs in urban centres.

The community decides on the number of distributors and is free to change a distributor or increase the number. The number per community varies but on average 2–3 persons are selected. In 1998, 6,789 CDDs were selected by 2,459 communities in five APOC countries giving an average of 2.7 ivermectin distributors per village. Community participation in the selection of distributors has been shown to increase treatment coverage rates and is a useful indicator for predicting whether a project will be sustainable.<sup>4</sup>

So far, few ivermectin distributors have been females.<sup>2, 3</sup> This situation has been attributed to poor participation of women in the traditional decision-making process. Also, in cultures where women are in seclusion, distributors are predominantly males.

This is a challenge to CDTI drug distribution strategies that require ivermectin to be swallowed in the presence of a distributor. Including females as distributors will enable treatment of other women in seclusion.

In cultures where women are in seclusion and there are no female CDDs, husbands have collected ivermectin for their wives. This approach may contribute to proxy reporting and lead to inconsistencies in treatment figures reported at different levels.

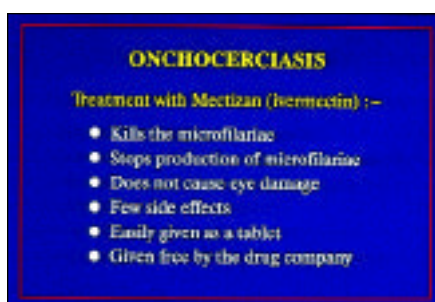
## Constraints

Constraints influencing the tasks of ivermectin distributors have been identified as:

- delays in the delivery of ivermectin from port to the community.
- follow-up and treating members of the community who were absent during the period of mass treatment (absentees) and refusals.
- the house-to-house mode of distribution.
- complex record-keeping demands, which affect the schedule and work load of the distributor resulting, in some instances, to high attrition (fall out) rate among distributors.

Ivermectin needs to be distributed for more than 15 years. Therefore, community incentives to CDDs is a more sustainable option than incentives from external sources. It may be practically difficult, but communities have provided incentives when members understood:

- they are in partnership.
- the role of each partner in the delivery of ivermectin.
- the monetary value of the contributions of other partners (Merck, MOH, NGOs) to bring ivermectin to them.
- that community contribution, as partners, includes support (in 'kind', cash) to distributors.



**Ivermectin: a safe and effective microfilaricide**

Text: Pak Sang Lee



**Measuring height before providing the correct dose of ivermectin**

Photo: WHO/TDR/Crump

Though the selection of distributors should be decided by the entire community, the decision-making processes that may exist in a given community prior to commencement of a control programme, has resulted in village leaders in some communities selecting themselves or relatives as distributors.

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| Occupations of CDDs         | Country A | Country B | Total |
|-----------------------------|-----------|-----------|-------|
| Farmers                     | 12        | 10        | 22    |
| Teachers                    | 8         | 1         | 9     |
| Students                    | 4         | -         | 4     |
| Other (Policeman + Soldier) | 2         | -         | 2     |
| Artisan                     | -         | 3         | 3     |
| Civil Servants              | -         | 2         | 2     |